

Imperial Irrigation District
Salt Balance Report
Including Water and Salt from Mexico
 1957 - December 31, 1958

- 1/ Salinity based upon samples taken weekly at Sta. 2903. No sample taken at Sta. 1 for this salt balance report.
- 2/ Discharge of water has been adjusted by subtracting water inflow from Mexico from the natural outlet discharge.
- 3/ Average salt concentration has been computed by dividing adjusted tons of salt by adjusted discharge in c.f.
- 4/ Tons of salt has been adjusted by subtracting tons of salt inflow from Mexico from the total tons of salt outflow in Alamo and New Rivers at outlet computed prior to adjusting discharge for water inflow from Mexican R. & C. direct to sea is the weighted average of that of both Alamo and New Rivers at outlet before adjustment.
- 5/ Based on six month period.

Note: All tonnage of salt are obtained from total discharge for week and t.a.c. of weekly samples except for direct to sea, which is obtained from total monthly discharge and weighted average salinity of both rivers at outlet. Average salt concentration shown are weighted averages obtained by dividing total tons of salt for period by total discharge.

EFFLUENT

Discharge Month	Adjusted Alamo River at Outlet			Adjusted New River at Outlet			Direct to Sea			Adjusted Total Effluent	
	Discharge	Aver. Salt	Tons of Salt	Discharge	Aver. Salt	Tons of Salt	Discharge	Aver. Salt	Tons of Salt	Discharge	Tons of Salt
Ac.-Ft.	lb.-Ft.	lb.-Ft.	Ac.-Ft.	lb.-Ft.	lb.-Ft.	Ac.-Ft.	lb.-Ft.	lb.-Ft.	Ac.-Ft.	lb.-Ft.	
62-9	212	200	42,400	200	200	40,000	1,212	100	121,200	38,077	519,438
61-10	182	180	32,760	180	180	32,400	1,178	100	117,800	31,896	319,220
61-11	182	180	32,760	180	180	32,400	1,352	100	135,200	38,551	315,861
62-12	182	180	32,760	180	180	32,400	1,406	100	140,600	40,619	359,440
62-1	182	180	32,760	180	180	32,400	1,124	100	112,400	32,363	291,402
62-2	182	180	32,760	180	180	32,400	1,158	100	115,800	32,900	311,745
Total	1,028	1000	180,000	1000	1000	180,000	6,232	1000	623,200	180,000	803,200

Tons of salt brought into Valley (including Mexico) = 803,200
 Tons of salt removed from Valley (including Mexico) = 100,000

Tons of salt gain = 703,200
 % gain = 87.5%

**Special Irrigation District
Salt Balance Report
Excluding Water and Salt from Mexico
(Continued)**

Summary		Summary Adjusted Effluent		Year	Adjusted to 1958 - 1960		
Total Monthly Discharge Ac-ft.	Tons of Salt	Total Monthly Discharge Ac-ft.	Tons of Salt		Tons of Salt Brought Into the Area	Tons of Salt Received	Net Gain or Loss
104,710	93,274	54,553	237,622	1958	2,723,153	3,341,376	22.70% gain
138,389	124,358	77,679	250,311	1959	2,852,019	3,401,652	19.27% gain
278,765	273,715	99,388	321,881	1960	3,162,485	3,558,534	12.52% gain
319,023	317,027	107,895	391,537				
302,329	320,729	94,537	408,959				
300,132	329,289	107,307	477,572				
312,075	362,772	58,077	310,838				
309,473	330,067	94,896	319,079				
252,173	291,683	92,758	315,061				
272,641	307,376	106,619	330,000				
161,361	128,863	71,360	283,002				
146,702	157,316	64,508	364,013				
2,833,860	2,621,483	930,204	3,729,534				

Apparent gain in salt removal (Including Mexico) -

396,049 Tons

12.52%

Thompson
Dowd
Carter
Sullivan

Mr. Clark
Gen. Files
Reg. Files

Federal Irrigation District
Salt Balance Report

Including Salt and Sulfate from Mexico

Inflow

A.A.S. Saline Run 1		
Discharge	Aver. Salt	Tons
Concn.		of
	Salt	Sulfate

- 1) Salinity based upon samples taken weekly on Dec. 29/31. No samples taken on Dec. 1 in this salt balance report.
- 2) Discharge at outlet has been adjusted by subtracting water inflow from Mexico from the natural water discharge.
- 3) Average salt concentration has been computed by dividing adjusted tons of salt by adjusted discharge in a.c.f.
- 4) Tons of salt has been adjusted by subtracting tons of salt inflow from Mexico from the total tons of salt entering in Alamo and New Rivers at outlet computed prior to adjusting discharge for water inflow from Mexican r.a.f. Direct to sea is the weighted average of that of both Alamo and New Rivers at outlet before adjustment.
- 5) Based on six month period.

Note: All tonnage of salt are obtained from total discharge for week and t.a.f. of weekly samples except for direct to sea, which is obtained from total monthly discharge and weighted average salinity of both rivers at outlet. Average salt concentrations shown are weighted averages obtained by dividing total tons of salt for period by total discharge.

Effluent

<u>Adjusted Alamo River at Outlet</u>			<u>Adjusted New River at Outlet</u>			<u>Direct to Sea</u>			<u>Adjusted Total Effluent</u>	
Discharge	Aver. Salt	Tons	Discharge	Aver. Salt	Tons	Discharge	Aver. Salt	Tons	Discharge	Tons
Concn.		of	Concn.		of	at sea	Concn.	of	at sea	of
	Salt	Sulfate		Salt	Sulfate			Salt		Salt

Tons of salt brought into Valley (including Mexico) =

Tons of salt gain =

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EXCLUDING INFO AND DATA FROM SOURCE
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Actuals		Actuals		Actuals		
Year	Value	Year	Value	Year	Value	Per Cent

1952	2,728,153	1952	3,341,376	22.10		
1953		1953				
1954		1954				
1955		1955				
1956		1956				
1957		1957				
1958		1958				
1959		1959				
1960		1960				
1961		1961				
1962		1962				
1963		1963				
1964		1964				

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EXCLUDING INFO AND DATA FROM SOURCE
CONFIDENTIAL

Mr. [Name]
 Mr. [Name]
 Mr. [Name]
 Mr. [Name]

SALT BALANCE REPORT 1950-1959

ACCOMPANYING LETTER OF SEP 8 1959
 IMPERIAL IRRIGATION DISTRICT
 FROM IMPERIAL CALIFORNIA
 TO *Imperial County*

Prepared By <i>[Signature]</i>	Approved By <i>[Signature]</i>
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LINE NO.	YEAR	(2) DISCH. BELOW DAM #1		(3) TONS OF SALT IN A/C INFLUENT	(4) SALINE WATER FROM CANALS		(5) NEW RIVER	(6) TOTAL DISCH. FROM CANALS (4) + (5)	(7) TOTAL DISCH. TO SEA	(8) DISCH. FROM CANALS (4) + (5)	(9) DISCH. FROM CANALS (4) + (5)	(10) NEW RIVER	(11) TOTAL DISCH. FROM CANALS (9) + (10)	(12) TOTAL DISCH. TO SEA (7) - (11)	(13) SALT BALANCE (12) - (3)	
		DISCH. FROM CANALS	DISCH. FROM CANALS		ALAMO RIVER	NEW RIVER										
1																
2	1950	1,485,902	1,383,260	1,383,260	632	17,027	17,709	557,987	540,278	2761	37,465	40,226	1,475,144	1,481,918		
3		1,452,764	1,360,848		711	19,965										20,676
4	1951	1,574,038	1,598,934	1,598,934	715	18,767	19,482	602,625	533,143	2,750	45,758	48,508	1,551,177	1,502,637		
5		1,492,580	1,467,651		670	16,741										17,411
6	1952	1,600,535	1,596,552	1,596,552	649	15,336	15,985	629,459	613,474	2,362	33,352	35,714	1,728,622	1,592,908		
7		1,622,576	1,496,765		601	20,581										21,182
8	1953	1,661,448	1,619,974	1,619,974	691	15,240	15,931	684,593	668,642	2,072	32,259	35,331	1,855,704	1,820,373		
9		1,691,796	1,653,541		617	15,876										16,493
10	1954	1,597,754	1,547,715	1,547,715	682	13,741	14,429	673,807	659,378	2,128	37,629	39,757	1,922,532	1,892,562		
11	1955	1,509,029	1,534,337	1,534,337	743	15,764	16,507	630,332	613,332	2,293	42,237	44,530	1,810,517	1,766,087		
12		1,529,147	1,627,410		752	18,894										19,646
13	1956	1,456,015	1,791,828	1,791,828	1,149	28,091	29,254	597,299	558,045	2,341	169,200	171,541	2,031,761	1,860,220		
14		1,478,637	1,866,717		1,063	37,210										38,273
15	1957	1,422,112	1,215,531	1,215,531	779	38,922	39,701	613,526	573,685	3,236	213,123	222,359	2,159,504	1,936,035		
16	1958	1,436,256	1,813,220	1,813,220	836	34,724	35,560	545,896	510,326	3,925	176,428	179,353	2,001,963	1,822,110		
17		1,345,136	1,536,219		926	36,121										37,047
18	1959	1,359,873	1,375,467	1,375,467	829	44,854	45,683	528,228	452,546	3,061	228,272	211,934	1,977,504	1,665,370		
19		1,371,023	1,344,686		1,162	59,129										60,291
20	1959	1,462,214	1,446,528	1,446,528	866	57,552	58,418	556,292	497,874	3,821	268,936	272,637	1,912,334	1,646,297		
21		1,379,959	1,405,491	1,405,491	953	64,272	65,225	598,314	523,099	2,891	294,177	297,068	2,052,423	1,755,355		
22																
23	TOTAL	29,894,474	31,531,054	31,531,054	16,296	588,807	605,103	11,927,091	11,321,958	51,562	2,531,429	2,582,991	36,712,925	34,329,934		
24	YEARLY															
25	Avg.	2,994,447	3,123,125	3,123,125	1,629	58,951	60,510	1,192,709	1,132,199	5,156	253,143	258,299	3,671,292	3,432,993		
26																
27																
28																
29																
30																
31																

AVG INFLUENT SALINITY = $\frac{3,123,105}{2,984,447} = 1.05 \text{ taf}$
 $\times 735 = 772 \text{ ppm}$

AVG EFFLUENT SALINITY = $\frac{3,432,993}{1,132,199} = 3.03 \text{ taf}$
 $\times 735 = 2,227 \text{ ppm}$

TODD COMPANY DIV - L
 Moddy Form H513